

CHAPTER 33
SPECIAL REGULATIONS AND CONSTRUCTION PERMIT REQUIREMENTS
FOR MAJOR STATIONARY SOURCES—PREVENTION OF SIGNIFICANT
DETERIORATION (PSD) OF AIR QUALITY

567—33.1(455B) Purpose. This chapter implements the major New Source Review (NSR) program contained in Part C of Title I of the federal Clean Air Act as amended on November 15, 1990, and as promulgated under 40 CFR 51.166 and 52.21 as amended through November 29, 2005. This is a pre-construction review and permitting program applicable to new or modified major stationary sources of air pollutants regulated under Part C of the Clean Air Act as amended on November 15, 1990. In areas that do not meet the national ambient air quality standards (NAAQS), the nonattainment NSR program applies. The requirements for the nonattainment NSR program are set forth in 567—22.5(455B) and 567—22.6(455B). In areas that meet the NAAQS, the PSD program applies. Collectively, the nonattainment NSR and PSD programs are referred to as the major NSR program.

Rule 567—33.2(455B) is reserved.

Rule 567—33.3(455B) sets forth the definitions, standards and permitting requirements that are specific to the PSD program.

Rules 567—33.4(455B) through 567—33.8(455B) are reserved.

Rule 567—33.9(455B) includes the conditions under which a source subject to PSD may obtain a plantwide applicability limitation (PAL) on emissions.

In addition to the requirements in this chapter, stationary sources may also be subject to the permitting requirements in 567—Chapter 22, including requirements for Title V operating permits.

567—33.2(455B) Reserved.

567—33.3(455B) Special construction permit requirements for major stationary sources in areas designated attainment or unclassified (PSD).

33.3(1) Definitions. Definitions included in this subrule apply to the provisions set forth in this rule (PSD program requirements). For purposes of this rule, the definitions herein shall apply, rather than the definitions contained in 40 CFR 52.21 and 51.166, except for the PAL program definitions referenced in rule 567—33.9(455B). For purposes of this rule, the following terms shall have the meanings indicated in this subrule:

“*Act*” means the Clean Air Act, 42 U.S.C. Sections 7401, et seq., as amended through November 15, 1990.

“*Actual emissions*” means:

1. The actual rate of emissions of a regulated NSR pollutant from an emissions unit, as determined in accordance with paragraphs “2” through “4,” except that this definition shall not apply for calculating whether a significant emissions increase has occurred, or for establishing a PAL under rule 567—33.9(455B). Instead, the requirements specified under the definitions for “projected actual emissions” and “baseline actual emissions” shall apply for those purposes.

2. In general, actual emissions as of a particular date shall equal the average rate, in tons per year, at which the unit actually emitted the pollutant during a consecutive 24-month period which precedes the particular date and which is representative of normal source operation. The department shall allow the use of a different time period upon a determination that it is more representative of normal source operation. Actual emissions shall be calculated using the unit’s actual operating hours, production rates, and types of materials processed, stored, or combusted during the selected time period.

3. The department may presume that source-specific allowable emissions for the unit are equivalent to the actual emissions of the unit.

4. For any emissions unit that has not begun normal operations on the particular date, actual emissions shall equal the potential to emit of the unit on that date.

“*Administrator*” means the administrator for the United States Environmental Protection Agency (EPA) or designee.

“*Allowable emissions*” means the emissions rate of a stationary source calculated using the maximum rated capacity of the source (unless the source is subject to federally enforceable limits or enforceable permit conditions which restrict the operating rate, or hours of operation, or both) and the most stringent of the following:

1. The applicable standards as set forth in 567—subrules 23.1(2) through 23.1(5) (new source performance standards, emissions standards for hazardous air pollutants, and federal emissions guidelines) or an applicable federal standard not adopted by the state, as set forth in 40 CFR Parts 60, 61 and 63;

2. The applicable state implementation plan (SIP) emissions limitation, including those with a future compliance date; or

3. The emissions rate specified as an enforceable permit condition, including those with a future compliance date.

“*Baseline actual emissions*,” for the purposes of this chapter, means the rate of emissions, in tons per year, of a regulated NSR pollutant, as “regulated NSR pollutant” is defined in this subrule, and as determined in accordance with paragraphs “1” through “4.”

1. For any existing electric utility steam generating unit, “baseline actual emissions” means the average rate, in tons per year, at which the unit actually emitted the pollutant during any consecutive 24-month period selected by the owner or operator within the five-year period immediately preceding the date on which the owner or operator begins actual construction of the project. The department shall allow the use of a different time period upon a determination that it is more representative of normal source operation.

(a) The average rate shall include fugitive emissions to the extent quantifiable and emissions associated with startups, shutdowns, and malfunctions.

(b) The average rate shall be adjusted downward to exclude any noncompliant emissions that occurred while the source was operating above an emissions limitation that was legally enforceable during the consecutive 24-month period.

(c) For a regulated NSR pollutant, when a project involves multiple emissions units, only one consecutive 24-month period must be used to determine the baseline actual emissions for the emissions units being changed. A different consecutive 24-month period may be used for each regulated NSR pollutant.

(d) The average rate shall not be based on any consecutive 24-month period for which there is inadequate information for determining annual emissions, in tons per year, and for adjusting this amount if required by paragraph “1”(b) of this definition.

2. For an existing emissions unit, other than an electric utility steam generating unit, “baseline actual emissions” means the average rate, in tons per year, at which the emissions unit actually emitted the pollutant during any consecutive 24-month period selected by the owner or operator within the ten-year period immediately preceding either the date on which the owner or operator begins actual construction of the project, or the date on which a complete permit application is received by the department for a permit required either under this chapter or under a SIP approved by the Administrator, whichever is earlier, except that the ten-year period shall not include any period earlier than November 15, 1990.

(a) The average rate shall include fugitive emissions to the extent quantifiable and emissions associated with startups, shutdowns, and malfunctions.

(b) The average rate shall be adjusted downward to exclude any noncompliant emissions that occurred while the source was operating above an emissions limitation that was legally enforceable during the consecutive 24-month period.

(c) The average rate shall be adjusted downward to exclude any emissions that would have exceeded an emissions limitation with which the major stationary source must currently comply, had such major stationary source been required to comply with such limitations during the consecutive 24-month period. However, if an emissions limitation is part of a maximum achievable control technology standard that the Administrator proposed or promulgated under 40 CFR Part 63, the baseline actual emissions need only be adjusted if the state has taken credit for such emissions reductions in an attainment demonstration or maintenance plan consistent with the requirements of 40 CFR 51.165(a)(3)(ii)(G) as amended through November 29, 2005.

(d) For a regulated NSR pollutant, when a project involves multiple emissions units, only one consecutive 24-month period must be used to determine the baseline actual emissions for the emissions units being changed. A different consecutive 24-month period may be used for each regulated NSR pollutant.

(e) The average rate shall not be based on any consecutive 24-month period for which there is inadequate information for determining annual emissions, in tons per year, and for adjusting this amount if required by paragraphs "2"(b) and "2"(c) of this definition.

3. For a new emissions unit, the baseline actual emissions for purposes of determining the emissions increase that will result from the initial construction and operation of such unit shall equal zero; and thereafter, for all other purposes, shall equal the unit's potential to emit.

4. For a PAL for a stationary source, the baseline actual emissions shall be calculated for existing electric utility steam generating units in accordance with the procedures contained in paragraph "1"; for other existing emissions units in accordance with the procedures contained in paragraph "2"; and for a new emissions unit in accordance with the procedures contained in paragraph "3."

"Baseline area" means:

1. Any intrastate area (and every part thereof) designated as attainment or unclassifiable under Section 107(d)(1)(D) or (E) of the Act in which the major source or major modification establishing the minor source baseline date would construct or would have an air quality impact equal to or greater than 1 ug/m^3 (annual average) of the pollutant for which the minor source baseline date is established.

2. Area redesignations under Section 107(d)(1)(D) or (E) of the Act cannot intersect or be smaller than the area of impact of any major stationary source or major modification which establishes a minor source baseline date or is subject to regulations specified in this rule, in 40 CFR 52.21 (PSD requirements), or in department rules approved by EPA under 40 CFR Part 51, Subpart I, and would be constructed in the same state as the state proposing the redesignation.

3. Any baseline area established originally for the total suspended particulate increments shall remain in effect and shall apply for purposes of determining the amount of available PM_{10} increments, except that such baseline area shall not remain in effect if the permitting authority rescinds the corresponding minor source baseline date in accordance with the definition of "baseline date" specified in this subrule.

"Baseline concentration" means:

1. The ambient concentration level that exists in the baseline area at the time of the applicable minor source baseline date. A baseline concentration is determined for each pollutant for which a minor source baseline date is established and shall include:

(a) The actual emissions representative of sources in existence on the applicable minor source baseline date, except as provided in paragraph "2" of this definition;

(b) The allowable emissions of major stationary sources that commenced construction before the major source baseline date, but were not in operation by the applicable minor source baseline date.

2. The following will not be included in the baseline concentration and will affect the applicable maximum allowable increase(s):

(a) Actual emissions from any major stationary source on which construction commenced after the major source baseline date; and

(b) Actual emissions increases and decreases at any stationary source occurring after the minor source baseline date.

“*Baseline date*” means:

1. Either “major source baseline date” or “minor source baseline date” as follows:

(a) The “major source baseline date” means, in the case of particulate matter and sulfur dioxide, January 6, 1975, and in the case of nitrogen dioxide, February 8, 1988.

(b) The “minor source baseline date” means the earliest date after the trigger date on which a major stationary source or a major modification subject to 40 CFR 52.21 as amended through November 29, 2005, or subject to this rule (PSD program requirements), or subject to a department rule approved by EPA under 40 CFR Part 51, Subpart I, submits a complete application under the relevant regulations. The trigger date for particulate matter and sulfur dioxide is August 7, 1977. For nitrogen dioxide, the trigger date is February 8, 1988.

2. The “baseline date” is established for each pollutant for which increments or other equivalent measures have been established if:

(a) The area in which the proposed source or modification would construct is designated as attainment or unclassifiable under Section 107(d)(i)(D) or (E) of the Act for the pollutant on the date of its complete application under 40 CFR 52.21 as amended through November 29, 2005, or under regulations specified in this rule (PSD program requirements); and

(b) In the case of a major stationary source, the pollutant would be emitted in significant amounts, or in the case of a major modification, there would be a significant net emissions increase of the pollutant.

Any minor source baseline date established originally for the total suspended particulate increments shall remain in effect and shall apply for purposes of determining the amount of available PM₁₀ increments, except that the reviewing authority may rescind any such minor source baseline date where it can be shown, to the satisfaction of the reviewing authority, that the emissions increase from the major stationary source, or the net emissions increase from the major modification, responsible for triggering that date did not result in a significant amount of PM₁₀ emissions.

“*Begin actual construction*” means, in general, initiation of physical on-site construction activities on an emissions unit which are of a permanent nature. Such activities include, but are not limited to, installation of building supports and foundations, laying of underground pipework, and construction of permanent storage structures. With respect to a change in method of operation, this term refers to those on-site activities, other than preparatory activities, which mark the initiation of the change.

“*Best available control technology*” or “*BACT*” means an emissions limitation, including a visible emissions standard, based on the maximum degree of reduction for each regulated NSR pollutant which would be emitted from any proposed major stationary source or major modification which the reviewing authority, on a case-by-case basis, taking into account energy, environmental, and economic impacts and other costs, determines is achievable for such source or modification through application of production processes or available methods, systems, and techniques, including fuel cleaning or treatment or innovative fuel combination techniques for control of such pollutant. In no event shall application of best available control technology result in emissions of any pollutant which would exceed the emissions allowed by any applicable standard under 567—subrules 23.1(2) through 23.1(5) (standards for new stationary sources, federal standards for hazardous air pollutants, and federal emissions guidelines), or federal regulations as set forth in 40 CFR Parts 60, 61 and 63 but not yet adopted by the state. If the department determines that technological or economic limitations on the application of measurement methodology to a particular emissions unit would make the imposition of an emissions standard infeasible, a design, equipment, work practice, operational standard or combination thereof may be prescribed instead to satisfy the requirement for the application of best available control technology. Such standard shall, to the degree possible, set forth the emissions reduction achievable by implementation of such design, equipment, work practice or operation and shall provide for compliance by means which achieve equivalent results.

“Building, structure, facility, or installation” means all of the pollutant-emitting activities which belong to the same industrial grouping, are located on one or more contiguous or adjacent properties, and are under the control of the same person (or persons under common control) except the activities of any vessel. Pollutant-emitting activities shall be considered as part of the same industrial grouping if they belong to the same major group (i.e., which have the same two-digit code) as described in the Standard Industrial Classification Manual, 1972, as amended by the 1977 Supplement (U.S. Government Printing Office stock numbers 4101-0066 and 003-005-00176-0, respectively).

“CFR” means the Code of Federal Regulations, with standard references in this chapter by title and part, so that “40 CFR 51” or “40 CFR Part 51” means “Title 40 Code of Federal Regulations, Part 51.”

“Clean coal technology” means any technology, including technologies applied at the precombustion, combustion, or postcombustion stage, at a new or existing facility which will achieve significant reductions in air emissions of sulfur dioxide or oxides of nitrogen associated with the utilization of coal in the generation of electricity, or process steam which was not in widespread use as of November 15, 1990.

“Clean coal technology demonstration project” means a project using funds appropriated under the heading “Department of Energy—Clean Coal Technology,” up to a total amount of \$2,500,000,000 for commercial demonstration of clean coal technology, or similar projects funded through appropriations for the Environmental Protection Agency. The federal contribution for a qualifying project shall be at least 20 percent of the total cost of the demonstration project.

“Commence,” as applied to construction of a major stationary source or major modification, means that the owner or operator has all necessary preconstruction approvals or permits and either has:

1. Begun, or caused to begin, a continuous program of actual on-site construction of the source, to be completed within a reasonable time; or
2. Entered into binding agreements or contractual obligations, which cannot be canceled or modified without substantial loss to the owner or operator, to undertake a program of actual construction of the source to be completed within a reasonable time.

“Complete” means, in reference to an application for a permit, that the application contains all the information necessary for processing the application. Designating an application complete for purposes of permit processing does not preclude the department from requesting or accepting any additional information.

“Construction” means any physical change or change in the method of operation, including fabrication, erection, installation, demolition, or modification of an emissions unit, that would result in a change in emissions.

“Continuous emissions monitoring system” or *“CEMS”* means all of the equipment that may be required to meet the data acquisition and availability requirements of this chapter, to sample, to condition (if applicable), to analyze, and to provide a record of emissions on a continuous basis.

“Continuous emissions rate monitoring system” or *“CERMS”* means the total equipment required for the determination and recording of the pollutant mass emissions rate (in terms of mass per unit of time).

“Continuous parameter monitoring system” or *“CPMS”* means all of the equipment necessary to meet the data acquisition and availability requirements of this chapter, to monitor the process device operational parameters and the control device operational parameters (e.g., control device secondary voltages and electric currents) and other information (e.g., gas flow rate, O₂ or CO₂ concentrations), and to record the average operational parameter value(s) on a continuous basis.

“Electric utility steam generating unit” means any steam electric generating unit that is constructed for the purpose of supplying more than one-third of its potential electric output capacity and more than 25 MW electrical output to any utility power distribution system for sale. Any steam supplied to a steam distribution system for the purpose of providing steam to a steam-electric generator that would produce electrical energy for sale is also considered in determining the electrical energy output capacity of the affected facility.

“*Emissions unit*” means any part of a stationary source that emits or would have the potential to emit any regulated NSR pollutant and includes an electric utility steam generating unit. For purposes of this chapter, there are two types of emissions units:

1. A new emissions unit is any emissions unit that is (or will be) newly constructed and that has existed for less than two years from the date such emissions unit first operated.

2. An existing emissions unit is any emissions unit that does not meet the requirements in “1” above. A replacement unit is an existing emissions unit.

“*Enforceable permit condition*,” for the purpose of this chapter, means any of the following limitations and conditions: requirements development pursuant to new source performance standards, prevention of significant deterioration standards, emissions standards for hazardous air pollutants, requirements within the SIP, and any permit requirements established pursuant to this chapter, any permit requirements established pursuant to 40 CFR 52.21 or Part 51, Subpart I, as amended through November 29, 2005, or under conditional, construction or Title V operating permit rules.

“*Federal land manager*” means, with respect to any lands in the United States, the secretary of the department with authority over such lands.

“*Federally enforceable*” means all limitations and conditions which are enforceable by the Administrator and the department, including those federal requirements not yet adopted by the state, developed pursuant to 40 CFR Parts 60, 61 and 63; requirements within 567—subrules 23.1(2) through 23.1(5); requirements within the SIP; any permit requirements established pursuant to 40 CFR 52.21 or under regulations approved pursuant to 40 CFR Part 51, Subpart I, as amended through November 29, 2005, including operating permits issued under an EPA-approved program, that are incorporated into the SIP and expressly require adherence to any permit issued under such program.

“*Fugitive emissions*” means those emissions which could not reasonably pass through a stack, chimney, vent, or other functionally equivalent opening.

“*High terrain*” means any area having an elevation 900 feet or more above the base of the stack of a source.

“*Indian governing body*” means the governing body of any tribe, band, or group of Indians subject to the jurisdiction of the United States and recognized by the United States as possessing power of self-government.

“*Indian reservation*” means any federally recognized reservation established by treaty, agreement, executive order, or Act of Congress.

“*Innovative control technology*” means any system of air pollution control that has not been adequately demonstrated in practice, but would have a substantial likelihood of achieving greater continuous emissions reduction than any control system in current practice or of achieving at least comparable reductions at lower cost in terms of energy, economics, or non-air quality environmental impacts.

“*Lowest achievable emissions rate*” or “*LAER*” means, for any source, the more stringent rate of emissions based on the following:

1. The most stringent emissions limitation which is contained in the SIP for such class or category of stationary source, unless the owner or operator of the proposed stationary source demonstrates that such limitations are not achievable; or

2. The most stringent emissions limitation which is achieved in practice by such class or category of stationary sources. This limitation, when applied to a modification, means the lowest achievable emissions rate for the new or modified emissions units within a stationary source. In no event shall the application of the term permit a proposed new or modified stationary source to emit any pollutant in excess of the amount allowable under an applicable new source standard of performance.

“*Low terrain*” means any area other than high terrain.

“*Major modification*” means any physical change in or change in the method of operation of a major stationary source that would result in a significant emissions increase of a regulated NSR pollutant and a significant net emissions increase of that pollutant from the major stationary source.

1. Any significant emissions increase from any emissions units or net emissions increase at a major stationary source that is significant for volatile organic compounds or NO_x shall be considered significant for ozone.

2. A physical change or change in the method of operation shall not include:

(a) Routine maintenance, repair and replacement;
 (b) Use of an alternative fuel or raw material by reason of any order under Section 2(a) and (b) of the Energy Supply and Environmental Coordination Act of 1974 or by reason of a natural gas curtailment plan pursuant to the Federal Power Act;

(c) Use of an alternative fuel by reason of an order or rule under Section 125 of the Act;

(d) Use of an alternative fuel at a steam generating unit to the extent that the fuel is generated from municipal solid waste;

(e) Use of an alternative fuel or raw material by a stationary source that the source was capable of accommodating before January 6, 1975, unless such change would be prohibited under any federally enforceable permit condition, or that the source is approved to use under any federally enforceable permit condition;

(f) An increase in the hours of operation or in the production rate, unless such change would be prohibited under any federally enforceable permit condition which was established after January 6, 1975;

(g) Any change in ownership at a stationary source;

(h) Reserved.

(i) The installation, operation, cessation, or removal of a temporary clean coal technology demonstration project, provided that the project complies with the requirements within the SIP; and other requirements necessary to attain and maintain the national ambient air quality standards during the project and after the project is terminated;

(j) The installation or operation of a permanent clean coal technology demonstration project that constitutes repowering, provided that the project does not result in an increase in the potential to emit of any regulated pollutant emitted by the unit. This exemption shall apply on a pollutant-by-pollutant basis;

(k) The reactivation of a very clean coal-fired electric utility steam generating unit.

3. This definition shall not apply with respect to a particular regulated NSR pollutant when the major stationary source is complying with the requirements under rule 567—33.9(455B) for a PAL for that pollutant. Instead, the definition under rule 567—33.9(455B) shall apply.

“*Major source baseline date*” is defined under the definition of “baseline date.”

“*Major stationary source*” means:

1. (a) Any one of the following stationary sources of air pollutants which emits, or has the potential to emit, 100 tons per year or more of any regulated NSR pollutant:

• Fossil fuel-fired steam electric plants of more than 250 million British thermal units per hour heat input;

• Coal cleaning plants (with thermal dryers);

• Kraft pulp mills;

• Portland cement plants;

• Primary zinc smelters;

• Iron and steel mill plants;

• Primary aluminum ore reduction plants;

• Primary copper smelters;

• Municipal incinerators capable of charging more than 250 tons of refuse per day;

• Hydrofluoric, sulfuric, and nitric acid plants;

• Petroleum refineries;

- Lime plants;
- Phosphate rock processing plants;
- Coke oven batteries;
- Sulfur recovery plants;
- Carbon black plants (furnace process);
- Primary lead smelters;
- Fuel conversion plants;
- Sintering plants;
- Secondary metal production plants;
- Chemical process plants;
- Fossil-fuel boilers (or combinations thereof) totaling more than 250 million British thermal units per hour heat input;
- Petroleum storage and transfer units with a total storage capacity exceeding 300,000 barrels;
- Taconite ore processing plants;
- Glass fiber processing plants; and
- Charcoal production plants.

(b) Notwithstanding the stationary source size specified in paragraph "1"(a), any stationary source which emits, or has the potential to emit, 250 tons per year or more of a regulated NSR pollutant; or

(c) Any physical change that would occur at a stationary source not otherwise qualifying under this definition as a major stationary source if the change would constitute a major stationary source by itself.

2. A major source that is major for volatile organic compounds or NO_x shall be considered major for ozone.

3. The fugitive emissions of a stationary source shall not be included in determining for any of the purposes of this rule whether it is a major stationary source, unless the source belongs to one of the categories of stationary sources listed in paragraph "1"(a) of this definition or to any other stationary source category which, as of August 7, 1980, is being regulated under Section 111 or 112 of the Act.

"Minor source baseline date" is defined under the definition of "baseline date."

"Necessary preconstruction approvals or permits" means those permits or approvals required under federal air quality control laws and regulations and those air quality control laws and regulations which are part of the SIP.

"Net emissions increase" means, with respect to any regulated NSR pollutant emitted by a major stationary source, the amount by which the following exceeds zero:

- The increase in emissions from a particular physical change or change in the method of operation at a stationary source as calculated according to the applicability requirements under subrule 33.3(2); and
- Any other increases and decreases in actual emissions at the major stationary source that are contemporaneous with the particular change and are otherwise creditable. Baseline actual emissions for calculating increases and decreases under this definition of "net emissions increase" shall be determined as provided for under the definition of "baseline actual emissions," except that paragraphs "1"(c) and "2"(d) of the definition of "baseline actual emissions," which describe provisions for multiple emissions units, shall not apply.

1. An increase or decrease in actual emissions is contemporaneous with the increase from the particular change only if the increase or decrease in actual emissions occurs between the date five years before construction on the particular change commences and the date that the increase from the particular change occurs.

2. An increase or decrease in actual emissions is creditable only if:

(a) The increase or decrease in actual emissions occurs within the contemporaneous time period, as noted in paragraph "1" of this definition; and

(b) The department has not relied on the increase or decrease in actual emissions in issuing a permit for the source under this rule, which permit is in effect when the increase in actual emissions from the particular change occurs.

3. An increase or decrease in actual emissions of sulfur dioxide, particulate matter, or nitrogen oxides that occurs before the applicable minor source baseline date is creditable only if the increase or decrease in actual emissions is required to be considered in calculating the amount of maximum allowable increases remaining available.

4. An increase in actual emissions is creditable only to the extent that the new level of actual emissions exceeds the old level.

5. A decrease in actual emissions is creditable only to the extent that:

(a) The old level of actual emissions or the old level of allowable emissions, whichever is lower, exceeds the new level of actual emissions;

(b) The decrease in actual emissions is enforceable as a practical matter at and after the time that actual construction on the particular change begins; and

(c) The decrease in actual emissions has approximately the same qualitative significance for public health and welfare as that attributed to the increase from the particular change.

6. An increase that results from a physical change at a source occurs when the emissions unit on which construction occurred becomes operational and begins to emit a particular pollutant. Any replacement unit that requires shakedown becomes operational only after a reasonable shakedown period, not to exceed 180 days.

7. The definition of "actual emissions," paragraph "2," shall not apply for determining creditable increases and decreases.

"*Nonattainment area*" means an area so designated by the Administrator, acting pursuant to Section 107 of the Act.

"*Permitting authority*" means the Iowa department of natural resources or the director thereof.

"*Pollution prevention*" means any activity that, through process changes, product reformulation or redesign, or substitution of less polluting raw materials, eliminates or reduces the release of air pollutants (including fugitive emissions) and other pollutants to the environment prior to recycling, treatment, or disposal. "Pollution prevention" does not mean recycling (other than certain "in-process recycling" practices), energy recovery, treatment, or disposal.

"*Potential to emit*" means the maximum capacity of a stationary source to emit a pollutant under its physical and operational design. Any physical or operational limitation on the capacity of the source to emit a pollutant, including air pollution control equipment and restrictions on hours of operation or on the type or amount of material combusted, stored, or processed, shall be treated as part of its design if the limitation or the effect it would have on emissions is federally enforceable. Secondary emissions do not count in determining the potential to emit of a stationary source.

"*Predictive emissions monitoring system*" or "*PEMS*" means all of the equipment necessary to monitor the process device operational parameters and the control device operational parameters (e.g., control device secondary voltages and electric currents) and other information (e.g., gas flow rate, O₂ or CO₂ concentrations), and calculate and record the mass emissions rate (e.g., lb/hr) on a continuous basis.

"*Prevention of significant deterioration (PSD) program*" means a major source preconstruction permit program that has been approved by the Administrator and incorporated into the SIP or means the program in 40 CFR 52.21. Any permit issued under such a program is a major NSR permit.

"*Project*" means a physical change in, or change in method of operation of, an existing major stationary source.

“*Projected actual emissions*,” for the purposes of this chapter, means the maximum annual rate, in tons per year, at which an existing emissions unit is projected to emit a regulated NSR pollutant in any one of the five years (12-month period) beginning on the first day of the month following the date when the unit resumes regular operation after the project, or in any one of the ten years following that date, if the project involves increasing the emissions unit’s design capacity or its potential to emit that regulated NSR pollutant, and full utilization of the unit would result in a significant emissions increase, or a significant net emissions increase at the major stationary source. For purposes of this definition, “regular” shall be determined by the department on a case-by-case basis.

In determining the projected actual emissions before beginning actual construction, the owner or operator of the major stationary source:

1. Shall consider all relevant information including, but not limited to, historical operational data, the company’s own representations, the company’s expected business activity and the company’s highest projections of business activity, the company’s filings with the state or federal regulatory authorities, and compliance plans under the approved plan; and

2. Shall include fugitive emissions to the extent quantifiable and emissions associated with start-ups, shutdowns, and malfunctions; and

3. Shall exclude, in calculating any increase in emissions that results from the particular project, that portion of the unit’s emissions following the project that an existing unit could have accommodated during the consecutive 24-month period used to establish the baseline actual emissions and that are also unrelated to the particular project, including any increased utilization due to product demand growth; or

4. In lieu of using the method set out in paragraphs “1” through “3,” may elect to use the emissions unit’s potential to emit, in tons per year.

“*Reactivation of a very clean coal-fired electric utility steam generating unit*” means any physical change or change in the method of operation associated with the commencement of commercial operations by a coal-fired utility unit after a period of discontinued operation in which the unit:

1. Has not been in operation for the two-year period prior to the enactment of the Act, and the emissions from such unit continue to be carried in the permitting authority’s emissions inventory at the time of the enactment;

2. Was equipped prior to shutdown with a continuous system of emissions control that achieves a removal efficiency for sulfur dioxide of no less than 85 percent and a removal efficiency for particulates of no less than 98 percent;

3. Is equipped with low-NO_x burners prior to the time of commencement of operations following reactivation; and

4. Is otherwise in compliance with the requirements of the Act.

“*Regulated NSR pollutant*” means the following:

1. Any pollutant for which a national ambient air quality standard has been promulgated and any constituents or precursors for such pollutants identified by the Administrator (e.g., volatile organic compounds and NO_x are precursors for ozone);

2. Any pollutant that is subject to any standard promulgated under Section 111 of the Act;

3. Any Class I or Class II substance subject to a standard promulgated under or established by Title VI of the Act; or

4. Any pollutant that otherwise is subject to regulation under the Act; except that any or all hazardous air pollutants either listed in Section 112 of the Act or added to the list pursuant to Section 112(b)(2) of the Act, which have not been delisted pursuant to Section 112(b)(3) of the Act, are not regulated NSR pollutants unless the listed hazardous air pollutant is also regulated as a constituent or precursor of a general pollutant listed under Section 108 of the Act.

“*Replacement unit*” means an emissions unit for which all the criteria listed in paragraphs “1” through “4” of this definition are met. No creditable emissions reductions shall be generated from shutting down the existing emissions unit that is replaced.

1. The emissions unit is a reconstructed unit within the meaning of 40 CFR 60.15(b)(1) as amended through December 16, 1975, or the emissions unit completely takes the place of an existing emissions unit.

2. The emissions unit is identical to or functionally equivalent to the replaced emissions unit.

3. The replacement does not change the basic design parameter(s) of the process unit.

4. The replaced emissions unit is permanently removed from the major stationary source, otherwise permanently disabled, or permanently barred from operation by a permit that is enforceable as a practical matter. If the replaced emissions unit is brought back into operation, it shall constitute a new emissions unit.

“*Repowering*” means:

1. Replacement of an existing coal-fired boiler with one of the following clean coal technologies: atmospheric or pressurized fluidized bed combustion; integrated gasification combined cycle; magneto-hydrodynamics; direct and indirect coal-fired turbines; integrated gasification fuel cells; or, as determined by the Administrator in consultation with the Secretary of Energy, a derivative of one or more of these technologies; and any other technology capable of controlling multiple combustion emissions simultaneously with improved boiler or generation efficiency and with significantly greater waste reduction relative to the performance of technology in widespread commercial use as of November 15, 1990.

2. Repowering shall also include any oil or gas-fired unit which has been awarded clean coal technology demonstration funding as of January 1, 1991, by the Department of Energy.

3. The department shall give expedited consideration to permit applications for any source that satisfies the requirements of this definition and is granted an extension under Section 409 of the Act.

“*Reviewing authority*” means the department, or the Administrator in the case of EPA-implemented permit programs under 40 CFR 52.21.

“*Secondary emissions*” means emissions which occur as a result of the construction or operation of a major stationary source or major modification, but do not come from the major stationary source or major modification itself. For the purposes of this chapter, “secondary emissions” must be specific, well-defined, and quantifiable, and must impact the same general areas as the stationary source modification which causes the secondary emissions. “Secondary emissions” includes emissions from any offsite support facility which would not be constructed or increase its emissions except as a result of the construction or operation of the major stationary source or major modification. “Secondary emissions” does not include any emissions which come directly from a mobile source, such as emissions from the tailpipe of a motor vehicle, from a train, or from a vessel.

“*Significant*” means:

1. In reference to a net emissions increase or the potential of a source to emit any of the following pollutants, a rate of emissions that would equal or exceed any of the following rates:

Pollutant and Emissions Rate

- Carbon monoxide: 100 tons per year (tpy)
- Nitrogen oxides: 40 tpy
- Sulfur dioxide: 40 tpy
- Particulate matter: 25 tpy of particulate matter emissions or 15 tpy of PM₁₀ emissions
- Ozone: 40 tpy of volatile organic compounds or NO_x
- Lead: 0.6 tpy
- Fluorides: 3 tpy
- Sulfuric acid mist: 7 tpy
- Hydrogen sulfide (H₂S): 10 tpy
- Total reduced sulfur (including H₂S): 10 tpy

- Reduced sulfur compounds (including H₂S): 10 tpy
- Municipal waste combustor organics (measured as total tetra- through octa-chlorinated dibenzo-p-dioxins and dibenzofurans): 3.2×10^{-6} megagrams per year (3.5×10^{-6} tons per year)
- Municipal waste combustor metals (measured as particulate matter): 14 megagrams per year (15 tons per year)
- Municipal waste combustor acid gases (measured as sulfur dioxide and hydrogen chloride): 36 megagrams per year (40 tons per year)
- Municipal solid waste landfill emissions (measured as nonmethane organic compounds): 45 megagrams per year (50 tons per year)

2. “Significant” means, for purposes of this rule and in reference to a net emissions increase or the potential of a source to emit a regulated NSR pollutant not listed in paragraph “1,” any emissions rate.

3. Notwithstanding paragraph “1,” “significant,” for purposes of this rule, means any emissions rate or any net emissions increase associated with a major stationary source or major modification, which would construct within ten kilometers of a Class I area, and have an impact on such area equal to or greater than 1 $\mu\text{g}/\text{m}^3$ (24-hour average).

“*Significant emissions increase*” means, for a regulated NSR pollutant, an increase in emissions that is significant for that pollutant.

“*State implementation plan*” or “*SIP*” means the plan adopted by the state of Iowa and approved by the Administrator which provides for implementation, maintenance, and enforcement of such primary and secondary ambient air quality standards as they are adopted by the Administrator, pursuant to the Act.

“*Stationary source*” means any building, structure, facility, or installation which emits or may emit a regulated NSR pollutant.

“*Temporary clean coal technology demonstration project*” means a clean coal technology demonstration project that is operated for a period of five years or less and that complies with the SIP and other requirements necessary to attain and maintain the national ambient air quality standards during the project and after the project is terminated.

“*Title V permit*” means an operating permit under Title V of the Act.

“*Volatile organic compounds*” or “*VOC*” means any compound included in the definition of “volatile organic compounds” found at 50 CFR 51.100(s) as amended through November 29, 2004.

33.3(2) Applicability: The requirements of this rule (PSD program requirements) apply to the construction of any new “major stationary source” as defined in subrule 33.3(1) or any project at an existing major stationary source in an area designated as attainment or unclassifiable under Section 107(d)(1)(A)(ii) or (iii) of the Act. In addition to the provisions set forth in rules 567—33.3(455B) through 567—33.9(455B), the provisions of 40 CFR Part 51, Appendix W (Guideline on Air Quality Models) as amended through November 9, 2005, are adopted by reference.

a. The requirements of subrules 33.3(10) through 33.3(18) apply to the construction of any new major stationary source or the major modification of any existing major stationary source, except as this rule (PSD program requirements) otherwise provides.

b. No new major stationary source or major modification to which the requirements of subrule 33.3(10) through paragraph 33.3(18) “*e*” apply shall begin actual construction without a permit that states that the major stationary source or major modification will meet those requirements.

c. Except as otherwise provided in paragraphs 33.3(2) “*i*” and “*j*,” and consistent with the definition of “major modification” contained in subrule 33.3(1), a project is a major modification for a “regulated NSR pollutant” if it causes two types of emissions increases: a “significant emissions increase”; and a “net emissions increase” which is “significant.” The project is not a major modification if it does not cause a significant emissions increase. If the project causes a significant emissions increase, then the project is a major modification only if it also results in a significant net emissions increase.

d. The procedure for calculating (before beginning actual construction) whether a significant emissions increase (i.e., the first step of the process) will occur depends upon the type of emissions units being modified, according to paragraphs “*e*” through “*h*” of this subrule. The procedure for calculating (before beginning actual construction) whether a significant net emissions increase will occur at the major stationary source (i.e., the second step of the process) is contained in the definition of “net emissions increase.” Regardless of any such preconstruction projections, a major modification results if the project causes a significant emissions increase and a significant net emissions increase.

e. Actual-to-projected-actual applicability test for projects that only involve existing emissions units. A significant emissions increase of a regulated NSR pollutant is projected to occur if the sum of the difference between the “projected actual emissions” and the “baseline actual emissions” for each existing emissions unit equals or exceeds the significant amount for that pollutant.

f. Actual-to-potential test for projects that involve only construction of a new emissions unit(s). A significant emissions increase of a regulated NSR pollutant is projected to occur if the sum of the difference between the “potential to emit” from each new emissions unit following completion of the project and the “baseline actual emissions” for a new emissions unit before the project equals or exceeds the significant amount for that pollutant.

g. Reserved.

h. Hybrid test for projects that involve multiple types of emissions units. A significant emissions increase of a regulated NSR pollutant is projected to occur if the sum of the emissions increases for each emissions unit, using the method specified in paragraphs “*e*” through “*g*” of this subrule, as applicable with respect to each emissions unit, for each type of emissions unit equals or exceeds the significant amount for that pollutant.

i. For any major stationary source with a PAL for a regulated NSR pollutant, the major stationary source shall comply with requirements under rule 567—33.9(455B).

j. Reserved.

33.3(3) Ambient air increments. The provisions for ambient air increments as specified in 40 CFR 52.21(c) as amended through November 29, 2005, are adopted by reference.

33.3(4) Ambient air ceilings. The provisions for ambient air ceilings as specified in 40 CFR 52.21(d) as amended through November 29, 2005, are adopted by reference.

33.3(5) Restrictions on area classifications. The provisions for restrictions on area classifications as specified in 40 CFR 52.21(e) as amended through November 29, 2005, are adopted by reference.

33.3(6) Exclusions from increment consumption. The provisions by which the SIP may provide for exclusions from increment consumption as specified in 40 CFR 51.166(f) as amended through November 29, 2005, are adopted by reference. The following phrases contained in 40 CFR 51.166(f) are not adopted by reference: “the plan may provide that,” “the plan provides that,” and “it shall also provide that.” Additionally, the term “the plan” shall mean “SIP.”

33.3(7) Redesignation. The provisions for redesignation as specified in 40 CFR 52.21(g) as amended through November 29, 2005, are adopted by reference.

33.3(8) Stack heights. The provisions for stack heights as specified in 40 CFR 52.21(h) as amended through November 29, 2005, are adopted by reference.

33.3(9) Exemptions. The provisions for allowing exemptions from certain requirements for PSD-subject sources as specified in 40 CFR 52.21(i) as amended through November 29, 2005, are adopted by reference.

33.3(10) Control technology review. The provisions for control technology review as specified in 40 CFR 52.21(j) as amended through November 29, 2005, are adopted by reference.

33.3(11) Source impact analysis. The provisions for a source impact analysis as specified in 40 CFR 52.21(k) as amended through November 29, 2005, are adopted by reference.

33.3(12) Air quality models. The provisions for air quality models as specified in 40 CFR 52.21(l) as amended through November 29, 2005, are adopted by reference.

33.3(13) Air quality analysis. The provisions for an air quality analysis as specified in 40 CFR 52.21(m) as amended through November 29, 2005, are adopted by reference.

33.3(14) Source information. The provisions for providing source information as specified in 40 CFR 52.21(n) as amended through November 29, 2005, are adopted by reference.

33.3(15) Additional impact analyses. The provisions for an additional impact analysis as specified in 40 CFR 52.21(o) as amended through November 29, 2005, are adopted by reference.

33.3(16) Sources impacting federal Class I areas—additional requirements. The provisions for sources impacting federal Class I areas as specified in 40 CFR 51.166(p) as amended through November 29, 2005, are adopted by reference. The following phrases contained in 40 CFR 51.166(p) are not adopted by reference: “the plan may provide that,” “the plan shall provide that,” “the plan shall provide” and “mechanism whereby.”

33.3(17) Public participation.

a. The department shall notify all applicants within 30 days as to the completeness of the application or any deficiency in the application or information submitted. In the event of such a deficiency, the date of receipt of the application shall be the date on which the department received all required information.

b. Within one year after receipt of a complete application, the department shall:

(1) Make a preliminary determination whether construction should be approved, approved with conditions, or disapproved.

(2) Make available in at least one location in each region in which the proposed source would be constructed a copy of all materials the applicant submitted, a copy of the preliminary determination, and a copy or summary of other materials, if any, considered in making the preliminary determination.

(3) Notify the public, by advertisement in a newspaper of general circulation in each region in which the proposed source would be constructed, of the application, of the preliminary determination, of the degree of increment consumption that is expected from the source or modification, and of the opportunity for comment at a public hearing as well as written public comment. At least 30 days shall be provided for public comment and for notification of any public hearing.

(4) Send a copy of the notice of public comment to the applicant, to the Administrator and to officials and agencies having cognizance over the location where the proposed construction would occur as follows: any other state or local air pollution control agencies; the chief executives of the city and county where the source would be located; any comprehensive regional land use planning agency; and any state, federal land manager, or Indian governing body whose lands may be affected by emissions from the source or modification.

(5) Provide opportunity for a public hearing for interested persons to appear and submit written or oral comments on the air quality impact of the source, alternatives to the proposed source or modification, the control technology required, and other appropriate considerations. At least 30 days' notice shall be provided for any public hearing.

(6) Consider all written comments submitted within a time specified in the notice of public comment and all comments received at any public hearing(s) in making a final decision on the approvability of the application. The department shall make all comments available for public inspection at the same locations where the department made available preconstruction information relating to the proposed source or modification.

(7) Make a final determination whether construction should be approved, approved with conditions, or disapproved.

(8) Notify the applicant in writing of the final determination and make such notification available for public inspection at the same locations where the department made available preconstruction information and public comments relating to the proposed source or modification.

33.3(18) Source obligation.

a. Approval to construct shall not relieve any owner or operator of the responsibility to comply fully with applicable provisions of the plan and any other requirements under local, state or federal law.

b. At such time that a particular source or modification becomes a major stationary source or major modification solely by virtue of a relaxation in any enforceable limitation which was established after August 7, 1980, on the capacity of the source or modification otherwise to emit a pollutant, such as a restriction on hours of operation, the requirements of subrules 33.3(10) through 33.3(19) shall apply to the source or modification as though construction had not yet commenced on the source or modification.

c. to e. Reserved.

f. The following specific provisions shall apply to projects at existing emissions units at a major stationary source, other than projects at a source with a PAL, in circumstances in which a project is not part of a major modification, and the owner or operator elects to use the method for calculating projected actual emissions as specified in subrule 33.3(1), paragraphs "1" through "3" of the definition of "projected actual emissions."

(1) Before beginning actual construction of the project, the owner or operator shall document and maintain a record of the following information:

1. A description of the project;
2. Identification of the emissions unit(s) whose emissions of a regulated NSR pollutant could be affected by the project; and
3. A description of the applicability test used to determine that the project is not a major modification for any regulated NSR pollutant, including the baseline actual emissions, the projected actual emissions, the amount of emissions excluded under paragraph "3" of the definition of "projected actual emissions" in subrule 33.3(1), an explanation describing why such amount was excluded, and any netting calculations, if applicable.

(2) No less than 30 days before beginning actual construction, the owner or operator shall meet with the department to discuss the owner's or operator's determination of projected actual emissions for the project and shall provide to the department a copy of the information specified in paragraph "f." The owner or operator is not required to obtain a determination from the department regarding the project's projected actual emissions prior to beginning actual construction.

(3) If the emissions unit is an existing electric utility steam generating unit, before beginning actual construction, the owner or operator shall provide a copy of the information set out in subparagraph (1) to the department. The requirements in subparagraphs (1), (2) and (3) shall not be construed to require the owner or operator of such a unit to obtain any determination from the department before beginning actual construction.

(4) The owner or operator shall:

1. Monitor the emissions of any regulated NSR pollutant that could increase as a result of the project and that is emitted by any emissions unit identified in subparagraph (1);
2. Calculate the annual emissions, in tons per year on a calendar-year basis, for a period of five years following resumption of regular operations and maintain a record of regular operations after the change, or for a period of ten years following resumption of regular operations after the change if the project increases the design capacity or potential to emit of that regulated NSR pollutant at such emissions unit (for purposes of this requirement, "regular" shall be determined by the department on a case-by-case basis); and

3. Maintain a written record containing the information required in this subparagraph.

(5) The written record containing the information required in subparagraph (4) shall be retained by the owner or operator for a period of ten years after the project is completed.

(6) If the unit is an existing electric utility steam generating unit, the owner or operator shall submit a report to the department within 60 days after the end of each year during which records must be generated under subparagraph (4) setting out the unit's annual emissions during the calendar year that preceded submission of the report.

(7) If the unit is an existing unit other than an electric utility steam generating unit, the owner or operator shall submit a report to the department if the annual emissions, in tons per year, from the project identified in subparagraph (1), exceed the baseline actual emissions, as documented and maintained pursuant to subparagraph (4), by an amount that is “significant” as defined in subrule 33.3(1) for that regulated NSR pollutant, and if such emissions differ from the preconstruction projection as documented and maintained pursuant to subparagraph (4). Such report shall be submitted to the department within 60 days after the end of such year. The report shall contain the following:

1. The name, address and telephone number of the major stationary source;
 2. The annual emissions as calculated pursuant to subparagraph (4); and
 3. Any other information that the owner or operator wishes to include in the report (e.g., an explanation as to why the emissions differ from the preconstruction projection).
- g. The owner or operator of the source shall make the information required to be documented and maintained pursuant to paragraph “f” available for review upon request for inspection by the department or the general public pursuant to the requirements for Title V operating permits contained in 567—subrule 22.107(6).

33.3(19) Innovative control technology. The provisions for innovative control technology as specified in 40 CFR 51.166(s) as amended through November 29, 2005, are adopted by reference. The following phrases contained in 40 CFR 51.166(s) are not adopted by reference: “the plan may provide that” and “the plan shall provide that.”

33.3(20) Conditions for permit issuance. Except as explained below, a permit may not be issued to any new “major stationary source” or “major modification” as defined in subrule 33.3(1) that would locate in any area designated as attainment or unclassifiable for any national ambient air quality standard pursuant to Section 107 of the Act, when the source or modification would cause or contribute to a violation of any national ambient air quality standard. A major stationary source or major modification will be considered to cause or contribute to a violation of a national ambient air quality standard when such source or modification would, at a minimum, exceed the following significance levels at any locality that does not or would not meet the applicable national standard:

Pollutant	Averaging Time				
	Annual (ug/m ³)	24 hrs. (ug/m ³)	8 hrs. (ug/m ³)	3 hrs. (ug/m ³)	1 hr. (ug/m ³)
SO ₂	1.0	5	_____	25	_____
PM ₁₀	1.0	5	_____	_____	_____
NO ₂	1.0	_____	_____	_____	_____
CO	_____	_____	500	_____	2000

A permit may be granted to a major stationary source or major modification as identified above if the major stationary source or major modification reduces the impact of its emissions upon air quality by obtaining sufficient emissions reductions to compensate for its adverse ambient air impact where the major stationary source or major modification would otherwise contribute to a violation of any national ambient air quality standard. This subrule shall not apply to a major stationary source or major modification with respect to a particular pollutant if the owner or operator demonstrates that the source is located in an area designated under Section 107 of the Act as nonattainment for that pollutant.

567—33.4(455B) to 567—33.8(455B) Reserved.

567—33.9(455B) Plantwide applicability limitations (PALs). This rule provides an existing major source the option of establishing a plantwide applicability limitation (PAL) on emissions, provided the conditions in this rule are met. The provisions for a PAL as set forth in 40 CFR 52.21(aa) as amended through November 29, 2005, are adopted by reference, except that the term “Administrator” shall mean “the department of natural resources.”

567—33.10(455B) Exceptions to adoption by reference. All references to Clean Units and Pollution Control Projects set forth in 40 CFR Sections 52.21 and 51.166 are not adopted by reference.

These rules are intended to implement Iowa Code chapter 455B.

[Filed 8/25/06, Notice 6/7/06—published 9/27/06, effective 11/1/06]